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Search Results - Record(s) 1 through 2 of 2 returned.

☒ 1. Document ID: US 5664172 A

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File: USPT

Sep 2, 1997

US-PAT-NO: 5664172

DOCUMENT-IDENTIFIER: US 5664172 A

TITLE: Range-based query optimizer

DATE-ISSUED: September 2, 1997

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Antoshenkov; Gennady	Amherst	NH		

ASSIGNEE-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY	TYPE CODE
Oracle Corporation	Redwood Shores	CA			02

APPL-NO: 08/277550 [PALM]

DATE FILED: July 19, 1994

INT-CL-ISSUED: [06] G06F 17/30

INT-CL-CURRENT:

TYPE	IPC	DATE
CIPP	<u>G06 F 17/30</u>	20060101

US-CL-ISSUED: 395/604; 395/603

US-CL-CURRENT: 707/4; 707/3FIELD-OF-CLASSIFICATION-SEARCH: 395/600, 395/161, 395/603, 395/604
See application file for complete search history.

PRIOR-ART-DISCLOSED:

U.S. PATENT DOCUMENTS

PAT-NO	ISSUE-DATE	PATENTEE-NAME	US-CL
<u>3964029</u>	June 1976	Babb	395/600
<u>4118788</u>	October 1978	Roberts	395/600

<u>4255796</u>	March 1981	Gabbe et al.	395/600
<u>4606002</u>	August 1986	Waisman et al.	395/600
<u>4677550</u>	June 1987	Ferguson	395/600
<u>4774657</u>	September 1988	Anderson et al.	364/200
<u>4811199</u>	March 1989	Kuechler et al.	395/600
<u>4811217</u>	March 1989	Tokizane et al.	395/800
<u>4817036</u>	March 1989	Millett et al.	395/600
<u>4827462</u>	May 1989	Flannagan et al.	369/32
<u>4829427</u>	May 1989	Green	364/300
<u>4945475</u>	July 1990	Bruffey et al.	395/600
<u>4947320</u>	August 1990	Crus et al.	364/200
<u>4956774</u>	September 1990	Shibamiya et al.	364/200
<u>5043872</u>	August 1991	Cheng et al.	364/200
<u>5237678</u>	August 1993	Kuechler et al.	395/600
<u>5241648</u>	August 1993	Cheng et al.	395/600
<u>5257365</u>	October 1993	Powers et al.	395/600
<u>5398199</u>	March 1995	Lefons	364/735

FOREIGN PATENT DOCUMENTS

FOREIGN-PAT-NO	PUBN-DATE	COUNTRY	CLASS
92/06440	April 1992	WO	

OTHER PUBLICATIONS

J. Cheng, et al, "An Efficient Hybrid Join Algorithm: A DB2 Prototype", Proceedings of 7th International Conference on Data Engineering (Apr. 1991).

Donald E. Knuth The Art of Computer Programming, vol. 3/ Sorting and Searching, Addison Wesley Publishing Company, (USA, 1973),pp. 550-567.

Ashany, Ron, "Application of Sparse Matrix Techniques to Search, Retrieval, Classification, and Relationship Analysis in Large Data Base Systems--SPARCOM", Fourth International Conference On Very Large Data Bases, West Berlin, Germany, Sep. 13-15, 1978, p. 499.

Douglas Comer, "The Ubiquitous B-Tree", Computing Surveys, vol. 11, No. 2, Jun. 1979, pp. 121-137.

"Rushmore's Bald Spot", DBMS, vol. 4, No. 10, Sep., 1991, p. 58.

Jeff Wincell, "Foxpro 2.0's Rushmore: Here's How FoxPro 2.0's New Technology Speeds Queries", DBMS, vol. 4, No. 10, Sep. 1991, pp. 54-59.

Jeff Winchell, "dBASE IV 2.0 Query Innovations: Borland's Latest dBASE Release: On the Forefront of Bitmap Index Optimization", DBMS, vol. 6, No. 10, Oct., 1993 pp. 68-71.

ART-UNIT: 237

PRIMARY-EXAMINER: Black; Thomas G.

ASSISTANT-EXAMINER: Lintz; Paul R.

ATTY-AGENT-FIRM: Lowe, Price, LeBlanc & Becker

ABSTRACT:

A computerized query optimizer for use with a database system having an ordered set of records. The optimizer employs a scanner and an evaluator. A query is composed as ranges of record values related by logical operators. The query is converted to a Boolean tree in canonical form. The tree is optimized to express the ranges as a set of disjoint semi-open ranges. The scanner reads a next record from the database. The evaluator, using the query, delivers a logical true or false condition for the record. In addition, the evaluator also delivers an interval of values having the same logical condition as the logical condition of the record. If this logical condition is false, the scanner skips over records having values of the interval, otherwise, if the logical condition is true, records having values of the interval are selected.

10 Claims, 19 Drawing figures

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw D
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2. Document ID: US 5664172 A

L4: Entry 2 of 2

File: DWPI

Sep 2, 1997

DERWENT-ACC-NO: 1997-448262

DERWENT-WEEK: 200279

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TITLE: Computerised query optimiser for database with ordered set of records - converts query to Boolean tree in canonical form before scanning records, and collapses overlapping ranges related by AND operator into single intersecting range and those related by OR to union of ranges

INVENTOR: ANTOSHENKOV, G

PRIORITY-DATA: 1994US-0277550 (July 19, 1994)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
US 5664172 A	September 2, 1997		034	G06F017/30

INT-CL (IPC): G06F 17/30

ABSTRACTED-PUB-NO: US 5664172A

BASIC-ABSTRACT:

The optimiser employs a scanner and an evaluator. A query is composed as ranges of record values related by logical operators. The query is converted to a Boolean tree in canonical form. The tree is optimized to express the ranges as a set of disjoint semi-open ranges. The scanner reads a next record from the database.

The evaluator, using the query, delivers a logical true or false condition for the record. The evaluator also delivers an interval of values having the same logical condition as the logical condition of the record. If this logical condition is false, the scanner skips over records having values of the interval, otherwise, if the logical condition is true, records having values of the interval are selected.

ADVANTAGE - Determines near-largest interval for which selection criteria is always false and avoids scanning corresp parts of database.

Full	Title	Citation	Front	Review	Classification	Date	Reference	Patent	Abstract	Claims	K&MC	Draw D
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(5664172.PN.) .PGPB,USPT,USOC,EPAB,JPAB,DWPI,TDBD.	2

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